

REMARKS

Claims 1-25 will be pending upon entry of the present amendment. Claims 1, 5-6, 8, 15, and 23 are amended. Claims 24-25 are new. No new matter is presented.

Claims 1-3 and 23 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,453,281 to Walters et al. ("Walters") in view of U.S. Patent No. 5,894,275 to Swingle..

An embodiment of the present invention provides an electronic device for the recording/reproduction of voice data that is entirely integrated in a chip of semiconductor material. It should be emphasized that the components of the electronic device, including the main transmission line, control unit, signal-conversion unit and non-volatile memory unit, are *all integrated in the same chip*. The advantages of this single-chip integration include a smaller device size and reduced power consumption. In addition, the unique architecture of the single-chip integration enables the device to optimize editing of the voice messages itself. Furthermore, the embodiment is characterized by the ability to accept and emit audio signals according to different formats by virtue of an interface circuit. This interface circuit adapts the format of data exchanged between the signal-conversion unit and the memory unit and implements a strategy of recovery of commands lost or failed.

Walters and Swingle do not teach or such the invention recited in claim 1. Claim 1 recites "An electronic device for the recording/reproduction of voice data, comprising: a chip of semiconductor material; a main transmission line *integrated in said chip*; a control unit *integrated in said chip*...; a signal-conversion unit *integrated in said chip*; and a non-volatile memory unit *integrated in said chip*..." (Emphasis added.) As admitted by the Examiner, Walters does not teach the integration in a single chip of such control, signal-conversion, and memory units.

Swingle also does not suggest integrating such control, signal-conversion, and memory units in a single chip. Swingle discloses a circuit 12 that includes integrated circuit, voice record/playback device 37, but does not discuss any internal structure of the device 37. As discussed in the Background section of the present application, such integrated devices directly process an analog input signal, without converting it into digital form, and store analog samples of the input signal in an analog memory. Nothing in Swingle suggests integrating any digital

devices, such as the signal-conversion unit that generates a first stream of compressed digital signals or a non-volatile memory unit that stores compressed digital data as recited in claim 1. A person of ordinary skill in the art would understand that merely storing and playing back an analog audio message using an integrated circuit like that of Swingle is a far cry from suggesting that would should or could integrate a main transmission line, a control unit, a digital signal-conversion unit, and a digital memory unit in a single chip. Accordingly, claim 1 is nonobvious in view of the cited prior art.

Claims 2-3 and 23 depend on claim 1, and thus, also nonobvious.

In addition, claim 23 recites other features that are not taught or suggested by Walters and Swingle. In particular, claim 23 recites that the non-volatile memory unit includes a format adapter for adapting the format of the first stream of compressed digital signal for the non-volatile memory unit. Neither Walters nor Swingle mentions or suggests such a format adapter. That fact, by itself, is enough to make claim 23 nonobvious in view of the prior art.

The applicants disagree for several reasons with the Examiner's assertion that "it was obvious that the memory unit 122 contained a format adapter since CODEC encoded the incoming voice signals according to a unique compression algorithm and the memory was adapted to store the voice signals according to that compression algorithm." First, an unsupported conclusion that the memory unit contained a format adapter does not satisfy the Examiner's burden of showing a specific teaching in the prior art of each claim element. In re Glaug, 283 F.3d 1335, 1341-1342 (Fed. Cir. 2002) (copy attached). Second, nothing in the function or structure of Walter's system inherently requires the memory unit 122 to include a format adapter. The output of the CODEC 158 could be in a format that is already compatible with the memory unit 122, and thus, there would be no need for the memory unit 122 to include a format adapter. Third, even if the Examiner were correct that the memory unit 122 was adapted to store the voice signals from the CODEC, that does not mean that the memory unit 122 necessarily includes a format adapter. Instead, the underlying structure of the memory unit could be redesigned to be compatible with the voice signals from the CODEC without needing a particular format adapter.

Thus, claim 23 is in condition for allowance.

Claims 4-5, 12-13, and 15-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters and Swingle in view of Unno et al., EP 0 851 423 A1 ("Unno").

Walters, Swingle and Unno do not teach or suggest the invention recited in claims 4 and 5, which depend on claim 1. Unno does not disclose anything about a single-chip integrated electronic device as recited in claim 1. Therefore, because the teachings of Walters and Swingle do not include all of the recited elements of claim 1, modifying those teachings by incorporating the teachings of Unno (a buffer memory) would not satisfy the limitations of claims 4 and 5. Accordingly, claims 4-5 are nonobvious in view of the cited prior art.

Although the language of claims 12-13 and 15-16 is not identical to that of claims 4-5, the nonobviousness of claims 12-13 and 15-16 will be apparent in view of the above discussion.

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters, Swingle, and Unno in view of U.S. Patent No. 5,787,445 to Daberkö.

The cited prior art references do not teach or suggest the invention recited in claims 6 and 7, which depend from claim 1. Daberkö does not disclose anything about a single-chip integrated electronic device as recited in claim 1. Therefore, because the teachings of Walters, Swingle, and Unno do not include all of the recited elements of claim 1, modifying those teachings by incorporating the teachings of Daberkö (first and second cache memories) would not satisfy the limitations of claims 6 and 7. Accordingly, claims 6-7 are nonobvious in view of the cited prior art.

Claims 8, 14, and 17-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters, Swingle, and Unno in view of U.S. Patent No. 6,016,522 to Rossum.

The cited prior art references do not teach or suggest the invention recited in claim 8, which depends from claim 1. Rossum does not disclose anything about a single-chip integrated electronic device as recited in claim 1. Therefore, because the teachings of Walters, Single, and Unno do not include all of the recited elements of claim 1, modifying those teachings by incorporating the teachings of Rossum ("ping-pong" buffering) would not satisfy the limitations of claim 8. Accordingly, claim 8 is nonobvious in view of the cited prior art.

Although the language of claims 14 and 17-19 is not identical to that of claim 8, the nonobviousness of claims 14 and 17-19 will be apparent in view of the above discussion.

Claims 9-11 and 20-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Walters and Swingle in view of U.S. Patent No. 6,604,168 to Ogawa.

Walters, Swingle, and Ogawa do not teach or suggest the invention recited in claims 9-11. Ogawa does not disclose anything about a single-chip integrated electronic device as recited in claim 1. Therefore, because the teachings of Walters and Swingle do not include all of the recited elements of claim 1, modifying those teachings by incorporating the teachings of Ogawa would not satisfy the limitations of claims 9-11. Accordingly, claims 9-11 are nonobvious in view of the cited prior art.

Although the language of claims 20-22 is not identical to that of claims 9-11, the nonobviousness of claims 20-22 will be apparent in view of the above discussion.

Although the language of new claims 24-25 is not identical to that of claim 23, the nonobviousness of claims 24-25 will be apparent in view of the above discussion of claim 23.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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RXI

Enclosure:

Postcard

In re Glaug et al. 283 F.3d 1335 (Fed. Cir. 2002)

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